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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/127,316 07/31/98 CHING

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IM62/0107  
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HOUSTON TX 77040

EXAMINER

NOLAN, S

ART UNIT

PAPER NUMBER

1772

DATE MAILED:

01/27/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

# Office Action Summary

Application No.

09/127,316

Applicant(s)

CHING et al

Examiner

Sandra Nolan

Group Art Unit

1772

☐ Responsive to communication(s) filed on \_\_\_\_\_

☐ This action is FINAL.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

## Disposition of Claim

☒ Claim(s) 1-98 is/are pending in the application

Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration

☐ Claim(s) \_\_\_\_\_ is/are allowed.

☒ Claim(s) 1-98 is/are rejected.

☒ Claim(s) 1-29 is/are objected to.

☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.

☒ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some\* ☒ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). \_\_\_\_\_

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

— SEE OFFICE ACTION ON THE FOLLOWING PAGES —

Art Unit: 1772

## DETAILED ACTION

### *Drawings*

1. The drawings submitted with the application have been approved by the Draftsperson.

### *Specification*

2. The disclosure is objected to because of the following informalities:

W/D  
a) the phrase "cyclic allylic" is a misnomer. The phrase "cyclic olefinic", as recited in the claims, is more appropriate;

b) the term "composition" is not proper when referring to a chemical entity.

### *Claim Objections*

3. <sup>12, 13, 15-31, 33-90, + 92-98</sup> Claims 1-29 are objected to because of the following informalities: the term "composition" is not proper when referring to a chemical entity.

NEW  
1-98  
objection - composition - any... backbone?  
Claim Rejections - 35 USC § 112

4. W/D Claims 1-98 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The specification describes the making of Applicants' terpolymers using that Irganox (an antioxidant) and a titanium catalyst. See Examples 1-3. However, the claims do not recite the use of both of these reagents. Claims 7, 8, 18, 19, 36, 37, 94 and 95 recite titanates, but not antioxidants. Clarification and/or correction is required.

Art Unit: 1772

*Claim Rejections - 35 USC § 102*

W/Pm 5. Claims 1, 2, 5-8, 12,-14, 16-19, 23-31, 34-37, 41-78, 85-90, and 92-95 rejected under 35 U.S.C. 102(e) as being anticipated by Ching et al (US 5,859,145).

Ching et al discloses terpolymers containing pendant ester, ether, and/or allylic moieties (see col. 13, lines 23+) that may be made using extrusion reaction (col. 7, line 32) and used to make packaging. The various features of applicants' claims disclosed by Ching et al are:

Ethylene - col. 2, lines 64+ [X and Y can be hydrogen and n is 2 to 30,000];

Styrene - col. 2, lines 9-10, "aryl";

Carboxy/amido linking groups - col. 2, line 23;

Use in packaging food - col. 2, line 61+;

Polyethylenic backbone - col. 5, line 44;

Pendant allylic groups - col. 6, line 17+; col. 10, lines 61+; col. 17, lines 1+;

Ether/heteroatom groups - col. 6, lines 29+;

Extrusion reaction - col. 7, lines 16+; col. 18, lines 5-17;

Ethylene/alkyl acrylate copolymer transesterification - col. 7, lines 32+; col. 18, lines 27+;

Cobalt salt esterification catalyst - col. 7, lines 36 and col. 14, line 40;

Ether side chains - col. 8, line 49;

Combinations of allylic and ether moieties - col. 9, lines 6+ and col. 13, lines 23+;

A cyclic allylic moiety - col. 17, line 36;

Pendant alkyl acrylate groups - col. 19, lines 40+;

Art Unit: 1772

Tetraalkyl titanate catalysts - col. 20, lines 23+;

Intermediate polymer use - col. 20, lines 39+;

Transition metal salts as oxygen scavengers - col. 23, line 67+

Photoinitiators - col. 25, line 65;

Blends with other polymers - col. 26, lines 16+ and 55+;

Multilayer containers of 8 to 10 mils thickness - col. 26, lines 38+;

Oxygen barrier layers - col. 28, lines 8+;

Heat sealability - col. 28, lines 40+;

Coextrusion, coating and lamination - col. 28, lines 49+.

The use of side chains containing various moieties is taught to provide good adhesive properties (col. 13, lines 35-37).

The properties recited in claim 23, 46, 56, 58, 62, 63, 75, and 76 would be inherent in the articles/polymers taught by Ching et al in view of the identity of the reactants and techniques.

***Claim Rejections - 35 USC § 103***

w/d  
6. Claims 1, 2, 4-8, 12-14, 15-19, 23-31, 33-37, 41-78, 81-82, 85-90, and 92-95 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ching et al.

Ching et al is discussed above. The use of styrene and ethylene in the backbones copolymers of Ching et al is suggested by structure (I) at col. 1. Ching et al do not show the specific packages, contents, reaction sequence, reactant selections recited in dependent claims 23, 24, 52, 63, 63, 75 and 76.

Art Unit: 1772

In the absence of objective evidence to the contrary, the use of the copolymers taught by Ching et al in the production flexible, transparent bottles or trays or to make packages for chemicals, electronics, pesticides or pharmaceuticals would have been an obvious matter of engineering choice and within the purview of one of ordinary skill in the art at the time that the invention was made, since oxygen scavenging packages are conventionally used to protect materials of these types. The selection of suitable monomers to make the polymers of Ching et al and the selection of suitable sequences for adding them to the reaction mix would be a matter of engineering choice, depending on the final properties to be achieved in the packages. The lack of significant fragmentation and alteration in odor/taste properties would be expected in the oxygen scavenging laminates suggested by Ching et al.

*Key 7.* <sup>1-13, 15-31, 33-50 and 72-98</sup> Claims 3, 9, 10, 11, 14, 15, 20, 21, 22, 32, 38, 39, 40, 79, 80, 83, 84, 91, 96-98 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ching et al as applied to claims 1, 2, 4-8, 12-14, 15-19, 23-31, 33-37, 41-78, 81-82, 85-90, and 92-95 above, and further in view of Pampus et al (US 3,873,644).

Ching et al is discussed above. They do not teach the specific cyclic olefins claimed.

Pampus et al teaches the use of cyclic olefin groups (col. 2, lines 21-27) as graft moieties on vinylic polymers. They do not show features of the invention other than the cyclic olefin side chains. The graft copolymers are taught to be crosslinkable (col. 4, lines 47+).

It would have been obvious to one having ordinary skill in the art at the time that the invention was made to employ the cyclic olefins of Pampus et al as graft monomers to attach to

Art Unit: 1772

the backbone and/or intermediate polymers of Ching et al in order to produce crosslinkable copolymers for use in laminates.

*Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sandra M. Nolan, whose telephone number is (703) 308-9545. The examiner can normally be reached on Monday through Thursday from 7:00 am to 4:00 pm. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ellis P. Robinson, can be reached on (703) 308-2364. The fax phone number for the organization where this application is assigned is (703) 305-5408.

The telephone number for the receptionist is (703) 308-0661.



S. M. Nolan  
Patent Examiner  
Technology Center 1700

SMN/smn  
January 3, 2000  
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